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ABSTRACT

This study examines the academic records of students in the Corpus Christi Independent School District (CCISD) who completed the Scholastic Aptitude Test (SAT). An attempt was made to identify the differences between high, average, and low scoring students on the SAT with respect to course patterns, grade point averages, and standardized achievement test scores. Research was conducted in the expectation that results would provide guidance for promoting procedures to improve SAT scores of CCISD students and reversing the decline of scores. The classification of student course patterns was a major aspect of the study. Several recommendations were proposed to improve student preparation for the SAT. These include informing junior high school students of the purpose of college entrance exams and the level of academic expectation required to succeed on them. All college bound students should be guided in taking the necessary college preparatory courses, especially geometry. Standardized end of course testing should be implemented to ensure that the prescribed course content is being taught. (DWH)

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EXAMINATION OF ACADEMIC CHARACTERISTICS OF A SAMPLE OF STUDENTS TAKING THE 1983 SCHOLASTIC APTITUDE TEST

TM 840 141

Office of Program Evaluation

Corpus Christi Independent School District
Corpus Christi, Texas

EXAMINATION OF ACADEMIC CHARACTERISTICS OF A SAMPLE OF STUDENTS TAKING THE 1983 SCHOLASTIC APTITUDE TEST

Office of Program Evaluation
January 1984

Corpus Christi Independent
School District
Corpus Christi, Texas

CORPUS CHRISTI INDEPENDENT SCHOOL DISTRICT
Corpus Christi, Texas

1983-1984

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EXECUTIVE SUMMARY

The purpose of this study was to examine the academic records of a group of SAT takers in the class of 1983 in the Corpus Christi Independent School District to determine what, if any, were differences between high, average, and low scoring students on the SAT with respect to course patterns, grade point averages, and standardized achievement test scores. The following is a list of major findings:

1. Forty-six percent (46%) of the sample SAT takers enrolled in the number and type of courses that would be considered necessary for college preparation.

2. As the course pattern becomes more college preparatory, the mean SAT scores, grade point averages, and CAT scores increase significantly.

3. While it is important for college-bound students to enroll in the necessary number and type of college preparatory courses, it is also important for students to obtain As and Bs in all such courses.

4. While sample SAT takers who had two or more credits of foreign language had mean SAT-verbal scores higher than those sample SAT takers who had fewer or no foreign language credits, the causal nature of this relationship is unclear.

5. Sample SAT takers who earned four or more academic credits during their senior year had higher mean SAT scores than those sample SAT takers earning less than four academic credits during their senior year. Again, the causal nature of this relationship is unclear.

6. A comparison of the top ten percent of graduates from the classes of 1973 and 1983 indicates a small increase in the percent of students taking the SAT during 1983. Mean SAT-verbal scores among the top ten percent from 1973 to 1983 dropped nearly twice as much as district mean SAT-verbal scores. Mean SAT-math scores among the top ten percent from 1973 to 1983 dropped approximately the same amount as district mean SAT-math scores. Grade point averages for English and mathematics remained constant for the two comparison years.

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CORPUS CHRISTI INDEPENDENT SCHOOL DISTRICT
Corpus Christi, Texas

EXAMINATION OF ACADEMIC CHARACTERISTICS OF A SAMPLE OF STUDENTS TAKING THE 1983 SCHOLASTIC APTITUDE TEST

The decline in the Scholastic Aptitude Test (SAT) mean scores over the past two decades has resulted in a number of studies attempting to determine possible causes. While each study usually has had something worthwhile to offer, the persistent theme continues to be that there is no one cause for the decline.

This study did not attempt to determine possible causes for the decline. Rather, the purpose of this study was to examine the academic records of a group of SAT takers in the Corpus Christi Independent School District (CCISD) to determine what, if any, were the differences between high, average, and low scoring students on the SAT with respect to course patterns, grade point averages, and standardized achievement test scores.

Hopefully, the results presented in this study will provide some guidance for promoting procedures not only to alleviate the decline, but improve SAT scores in the Corpus Christi Independent School District.

Procedure. The population of students for this study consisted of CCISD seniors in the cla of 1983 who had taken the SAT at least once during their enrollment in high school. Three stratified sample groups of students were selected from the stated population.

An inspection of the distribution of SAT scores for 1983 indicated that approximately 60-70 students could be identified for each strata by using the following cut-scores:

SAT Score Category	SAT-Verbal Range	SAT-Math Range
High	550 - 800	600 - 800
Average	470 - 530	470 - 530
Low	200 - 300	200 - 350

The SAT includes separate verbal and math scores, each reported on a scale of 200-to-800.

Since the SAT mean scores for the population differed by 36 points (verbal = 420; math = 456), the resulting cut-scores for high and low scoring students on the verbal and math sections also differed.

All students having SAT scores within the ranges specified for each strata for either verbal or math were selected for this study. Both SAT scores were used in the analysis even if one of the scores did not fall within the specified strata. It was anticipated that approximately 225 of the 477 students (47%) in the population would be selected. However, the overlap among students having both verbal and math scores in the same strata was not as large as expected. Therefore, the resulting sample size was considerably larger and included 330 students (69% of population). This unexpected event actually produced a sample which reflected the population distribution and mean scores very closely as indicated in Table 1. This indicates that the findings based on the sample can be generalized with confidence to the population.

TABLE 1

COMPARISON OF SAT SCORE DISTRIBUTION FOR ALL STUDENTS' SCORES
AND SAMPLE OF STUDENTS' SCORES

SAT Score Range	SAT - Verbal		SAT - Math	
	All Students 1983	Sample Students 1983	All Students 1983	Sample Students 1983
200 - 399	42.6%	43.3%	35.2%	38.8%
400 - 599	51.9%	50.0%	52.7%	44.8%
600 - 800	5.4%	6.7%	12.2%	16.3%
Total N	477	330	477	330
Mean Score	420	419	456	455

An important aspect of this study was the classification of student course patterns into various groups. These groups were based on the amount and type of courses which would be necessary for college preparation. Four course pattern groups were defined (see Chart I) with Groups III and IV being considered the course patterns necessary for college preparation.

Student SAT records were examined to identify the sample students for each strata. After identifying the sample students, transcripts and records for each student were examined to determine and record the following data:

- The latest SAT verbal and math scores.
- The course pattern each student's transcript indicated (see Chart I for course pattern description).
- The overall grade point average (standard 4-point system: A = 4, B = 3, C = 2, D = 1, F = 0).
- The grade point averages for English and math courses were calculated separately using the standard 4-point system.
- The California Achievement Test scores for reading and math administered during the spring of 1981 and 1982.
- Whether or not at least two credits of a foreign language had been earned.
- Whether or not at least four academic credits had been earned during the senior year.

The above data was then coded and placed on a computer file. The

data was analyzed by computer using various statistical packages included in the BMDP system.

Additionally, data was collected for students among the top ten percent of graduates for the classes of 1973 and 1983 in order to compare mean SAT scores and grade point averages.

Scholastic Aptitude Test. Each year approximately one million high school seniors seeking admission to college take the SAT. The SAT is a standardized college admissions test designed to measure a candidate's developed mental abilities and potential to perform first-year college work. The SAT is intended to supplement the student's academic record and accomplishments.

The SAT is a multiple-choice test consisting of two verbal sections with a total of 85 questions and two mathematical sections with a total of 60 questions. The two verbal sections contain antonym questions to test the extent of a student's vocabulary, analogy questions to test the ability to recognize a relationship in a pair of words, sentence completion questions to test the ability to recognize relationships among the parts of a sentence, and reading passages to test interpretive and analytical skills. The two mathematical sections include arithmetic, algebra, and geometry. The 85 SAT-verbal test items are worth approximately seven points each and the 60 SAT-math items are worth approximately nine points each on a 200-to-800 point scale.

Appendix A contains one verbal and one math section from a SAT test

that was administered in 1982 (CEEB, 1983). The correct answer and the percent of students answering correctly (nationally) is indicated for each question. Also included is information on how a SAT test score is determined.

CHART I

DESCRIPTION OF COURSE PATTERN GROUPS

Course Pattern Group	Description
I	English - 3 or 4 credits (any Corr. Lang. Arts) Math - 2 credits (not Algebra II) Science - 2 credits
II	English - 4 credits Math - 2 credits (Algebra I & II) Science - 2 credits
III	English - 4 credits Math - 3 credits (Algebra I & II, Geometry) Science - 2 credits (combination of Biology, Chemistry, or Physics)
IV	Same as III with a minimum of 3 honors credits

FINDINGS

The following findings are based on the analysis of the data collected on sample SAT takers. A commentary follows each statement of finding.

1. Forty-six percent (46%) of the sample SAT takers enrolled in the number and type of courses that would be considered necessary for college preparation.

The means for SAT scores, grade point averages, and CAT scores by the various course patterns are shown in Table 2. Also, the distribution of SAT scores by course patterns are shown in Graph 1 for SAT-verbal scores and in Graph 2 for SAT-math scores.

Ideally, all students taking the SAT should have a course pattern which includes at least four credits of English, three credits of mathematics (algebra I & II and geometry), and two credits of science (combination of biology, chemistry, or physics). In a nationwide study conducted of 1972 SAT takers, 84% of the students were in college preparatory courses (Beaton, 1977). Forty-six percent of the sample CCISD SAT takers met such a requirement. However, the majority of students in Group II would have met the college preparatory requirements if they had included geometry in their course selection.

The lowest percent of students (12%) was found in Group III of the course pattern groups. This was primarily due to the high percent of students not taking geometry and therefore classified in Group II. The course pattern for Group III would be considered the minimum for

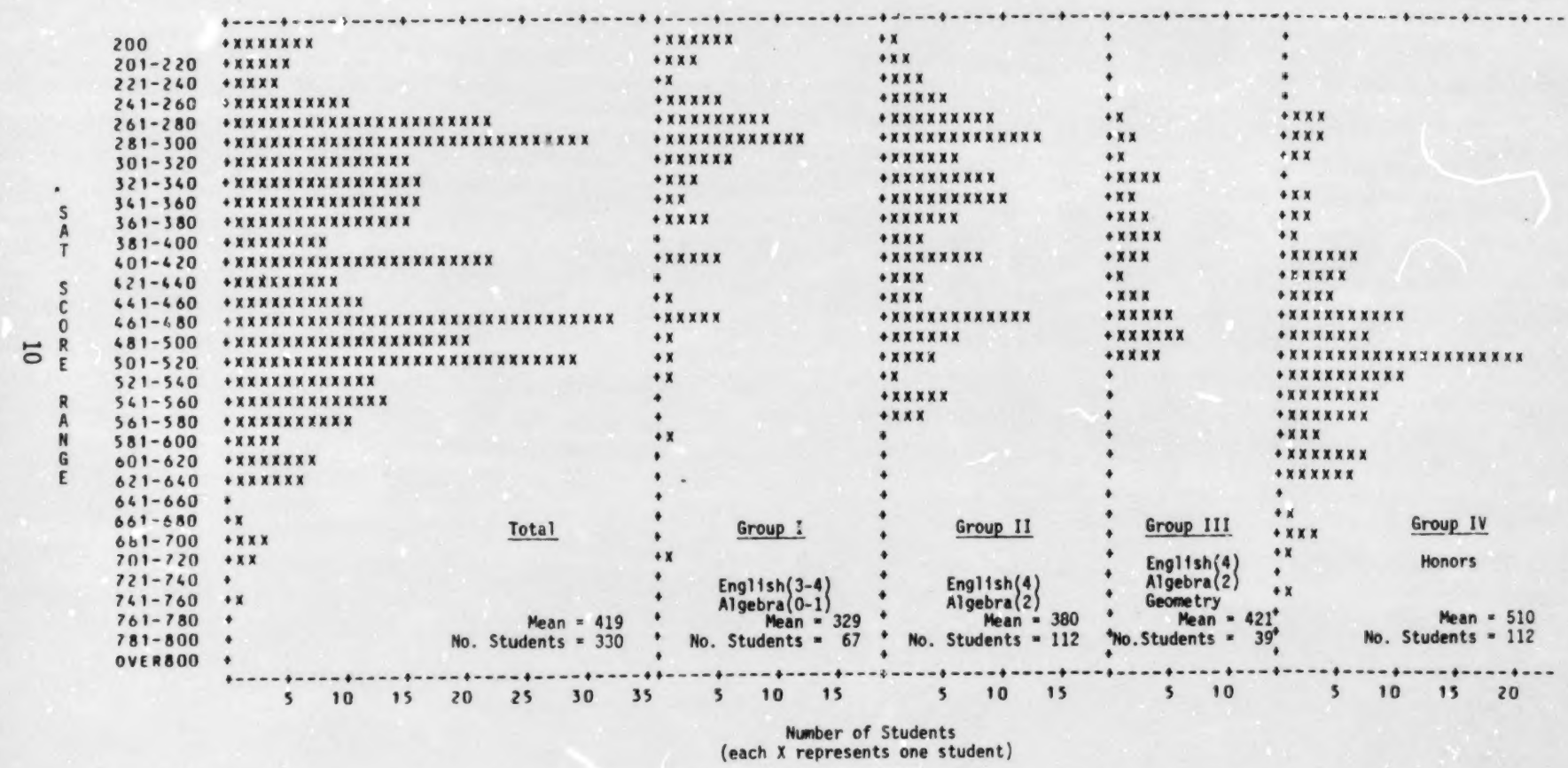
TABLE 2

VARIOUS STATISTICS OF SAMPLE SAT STUDENTS
BY COURSE PATTERN

Course Pattern	Percent of Sample	Mean SAT - 1983		Mean GPA			Mean CAT - 1982	
		Verbal	Math	Total	English	Math	Reading	Math
I. Eng(3-4)/Alg(0-1)	20%	329	337	2.3	1.9	1.7	54	51
II. Eng(4)/Alg(2)	34%	330	409	2.9	2.7	2.3	71	72
III. Eng(4)/Alg(2)/Geom	12%	421	472	3.1	3.0	2.8	79	82
IV. Honors	34%	510	564	3.6	3.5	3.3	93	93
Total	N = 330	419	455	3.0	2.8	2.6	79	79

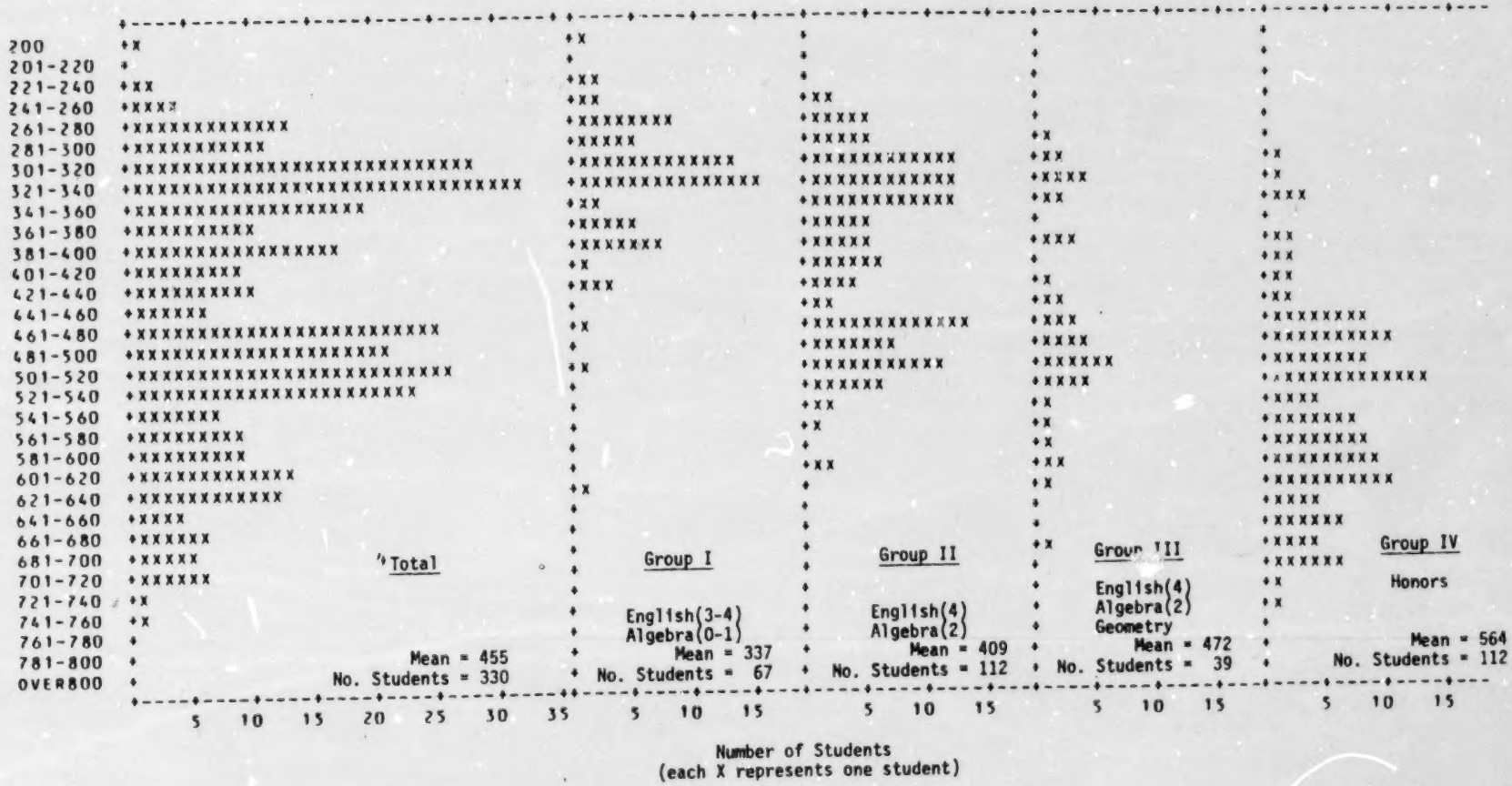
GRAPH 1

DISTRIBUTION OF SAT VERBAL SCORES BY COURSE PATTERN



GRAPH 2

DISTRIBUTION OF SAT MATHEMATICS SCORES BY COURSE PATTERN



college preparatory courses. Group IV which consisted of honor course students contained 34% of the sample SAT takers.

2. As the course pattern becomes more college preparatory, the mean SAT scores, grade point averages, and CAT scores increase significantly.

The increase in the various means as the course pattern becomes more college preparatory is evident in Table 2. However, the differences between mean SAT verbal and math scores within the same course pattern become larger as the course pattern becomes more college preparatory. With mean SAT-math scores being higher, the differences within each course pattern are: Group I (8 points); Group II (29 points); Group III (51 points); and Group IV (54 points).

During the decade of the 50's, the national mean SAT-verbal scores lagged behind mean SAT-math scores by about 21 points. From the start of the decline in the early 60's until the present, the difference between national SAT verbal and math scores has doubled to 43 points. During the past ten years the mean SAT verbal and math scores for both national and CCISD results has been approximately 40 points.

The differences between mean SAT verbal and math scores are the greatest in the two course pattern groups (III and IV) which are considered college preparatory. Since verbal skills are more influenced by out of school experiences than are math skills, it is not known just how much this difference is the result of changes in either curriculum or out of school experiences.

A study by Chall (1977) revealed a possible gap between the difficulty of the SAT reading passages and the difficulty of eleventh grade

textbooks. SAT passages were determined to be on a 13-15 grade level while eleventh grade textbooks had an overall readability level of 9-10 grade level.

The verbal section of the SAT measures sophisticated language aptitudes. An examination of the verbal questions on the SAT shows that the total judgement required by the test incorporates all of the following: a very erudite vocabulary; a keen understanding of syntax; an experienced understanding of human nature; and the ability to select between the obliquely correct and the somewhat more precise (Farr & Olsharsky, 1980).

In a culture dominated by television, it is sometimes suggested that the reading skills measured by the SAT are less emphasized than they once were. Many believe that a considerable amount of time students now spend watching television used to go into homework and into reading and writing.

The differences between mean English and math grade point averages within the same course pattern generally were about 0.2 of a point. However, the mean English GPAs were higher than the mean math GPAs. This is a reversal of the SAT order. The differences between mean CAT scores in reading and math within the same course pattern varied in magnitude and direction.

The mean differences within course patterns for GPAs and CAT scores were not large enough to be considered significant. The differences between means of the various groups on the same variable can be considered large enough to be of a practical significance if they differ

by at least one-third of their standard deviation. Using such a guideline, differences of at least the following magnitude can be considered significant: SAT scores--40 points; GPAs--0.3 point; and CAT scores--6 points.

Regardless of the causes, the greater differences between mean SAT verbal and math scores for those sample SAT takers enrolled in college preparatory courses indicates a lower level of preparation for verbal skills measured by the SAT than for math skills measured by the SAT.

3. While it is important for college-bound students to enroll in the necessary number and type of college preparatory courses, it is also important for students to obtain As and Bs in all such courses.

The information presented in Table 2 is presented in greater detail in Tables 3-6 with the various means categorized by GPA ranges and a combination of GPA ranges and course patterns.

As the mean GPAs increased in English (Table 3) and math (Table 4), the respective SAT and CAT mean scores increased significantly.

For reading, the achievement as measured by the CAT from spring of 1981 (grade 10) to spring of 1982 (grade 11) for the sample SAT takers indicated an overall one point drop from the 80th percentile to the 79th percentile. However, mean CAT reading scores for students with English GPAs above 2.5 remained constant while there was a two point drop in mean CAT reading scores for students with English GPAs below 2.6. Districtwide, the achievement for reading as measured by the CAT for average and above average students (scoring above the 25th percentile)

TABLE 3

VARIOUS STATISTICS OF SAMPLE SAT STUDENTS
BY RANGES OF ENGLISH GRADE POINT AVERAGE

Range of English GPA	Percent of Sample	Mean SAT - Verbal 1983	Mean English GPA	Mean CAT Reading	
				1981	1982
Less than 1.6	7%	298	1.3	43	41
1.6 to 2.5	30%	331	2.1	59	57
2.6 to 3.5	38%	438	3.1	83	83
Greater than 3.5	25%	532	3.9	94	94
Total	N = 330	419	2.8	80	79

TABLE 4

VARIOUS STATISTICS OF SAMPLE SAT STUDENTS
BY RANGES OF MATHEMATICS GRADE POINT AVERAGE

Range of Math GPA	Percent of Sample	Mean SAT - Math 1983	Mean Math GPA	Mean CAT Math	
				1981	1982
Less than 1.6	14%	348	1.2	50	55
1.6 to 2.5	33%	382	2.0	65	63
2.6 to 3.5	35%	492	3.0	86	87
Greater than 3.5	18%	595	3.8	95	94
Total	N = 330	455	2.6	79	79

from spring of 1981 (grade 10) to spring of 1982 (grade 11) indicated a three point drop from the 63rd percentile to the 60th percentile.

For math, the achievement as measured by the CAT from spring of 1981 (grade 10) to spring of 1982 (grade 11) for the sample SAT takers remained constant at the 79th percentile. However, between the various math GPAs the achievement from spring to spring varied both in magnitude and direction. Districtwide, the achievement for math as measured by the CAT for average and above average students (scoring above the 25th percentile) from spring of 1981 (grade 10) to spring of 1982 (grade 11) remained constant at the 60th percentile.

Mean SAT-verbal scores by course pattern and English GPA ranges is presented in Table 5. An increase in mean SAT-verbal scores with a corresponding increase in English GPAs within course patterns is evident. Generally, across course patterns within the same English GPA range, the mean SAT-verbal scores increased. However, students with an English GPA of 3.1 or higher had a tendency to score about the same in Groups I through III. This is probably caused by students being categorized into the various course patterns from a lack of math courses although they were enrolled in four years of English. Forty-four percent of the sample SAT takers had an English GPA of 3.1 or higher.

Mean SAT-math scores by course pattern and math GPA ranges is presented in Table 6. Across course patterns within the same math GPA range, the mean SAT-math scores increased. Unlike the pattern for mean SAT-verbal scores (Table 5), students taking more math courses scored

TABLE 5

MEAN SAT VERBAL SCORES BY COURSE PATTERN
AND ENGLISH GRADE POINT AVERAGE

Range of English GPA	Course Pattern			
	Group I	Group II	Group III	Group IV
	English(3-4) Algebra(0-1)	English(4) Algebra(2)	English(4) Alg(2)/Geom	Honors
	Mean* SAT Verbal Scores			
0.5 - 1.0	260*	—	—	—
1.1 - 1.5	303	285*	—	440*
1.6 - 2.0	307	318	350*	520*
2.1 - 2.5	318	351	370*	360*
2.6 - 3.0	420*	384	436	470*
3.1 - 3.5	650*	428	427	489
3.6 - 4.0	490*	484	475*	545
Total	329	380	421	510
	Percent (Number) of Group Sample			
0.5 - 1.0	6% (4)	—	—	—
1.1 - 1.5	22% (15)	3% (4)	—	1% (1)
1.6 - 2.0	30% (20)	21% (23)	10% (4)	1% (1)
2.1 - 2.5	27% (18)	19% (21)	10% (4)	7% (8)
2.6 - 3.0	10% (7)	28% (31)	39% (15)	8% (9)
3.1 - 3.5	3% (2)	19% (21)	31% (12)	26% (29)
3.6 - 4.0	2% (1)	11% (12)	10% (4)	57% (64)
Total	67	112	39	112

*For groups of less than 10 students the median SAT score for the group is given.

TABLE 6

MEAN SAT MATHEMATICS SCORES BY COURSE PATTERN
AND MATHEMATICS GRADE POINT AVERAGE

Range of Mathematics GPA	Course Pattern			
	Group I	Group II	Group III	Group IV
	English(3-4) Algebra(0-1)	English(4) Algebra(2)	English(4) Alg(2)/Geom	Honors
Mean* SAT Math Scores				
0.5 - 1.0	300*	340*	—	—
1.1 - 1.5	334	371	—	—
1.6 - 2.0	320	382	360*	490*
2.1 - 2.5	355	395	432	400*
2.6 - 3.0	390*	445	473	539
3.1 - 3.5	285*	481	520*	545
3.6 - 4.0	—	460*	590*	609
Total	337	409	472	564
Percent (Number) of Group Sample				
0.5 - 1.0	9% (6)	5% (6)	—	—
1.1 - 1.5	30% (20)	13% (15)	—	—
1.6 - 2.0	33% (22)	24% (27)	8% (3)	4% (5)
2.1 - 2.5	16% (11)	19% (21)	33% (13)	5% (6)
2.6 - 3.0	9% (6)	26% (29)	31% (12)	18% (20)
3.1 - 3.5	3% (2)	9% (10)	13% (5)	27% (30)
3.6 - 4.0	—	4% (4)	15% (6)	46% (51)
Total	67	112	39	112

*For groups of less than 10 students the median SAT score for the group is given.

higher on the SAT-math across course patterns within a math GPA range. Thirty-three percent of the sample SAT takers had a math GPA of 3.1 or higher.

Undoubtedly, the results presented in these tables have been affected to some degree by varying amounts of ability, interest, and motivation of the students.

4. While sample SAT takers who had two or more credits of foreign language had mean SAT-verbal scores higher than those sample SAT takers who had fewer or no foreign language credits, the causal nature of this relationship is unclear.

Does learning a foreign language improve verbal ability or do more students with high verbal ability enroll in more foreign language courses? Presently, the answer is not certain.

Overall, Table 7 indicates that the differences between mean SAT verbal and math scores within the two groups are about the same as the approximately 40 point difference found nationally and locally when total population scores are compared. This would tend to disprove the assumption that foreign language courses contribute to the students' knowledge and understanding of what is being measured on the verbal section of the SAT (CEEB, 1977). However, students in the honor course pattern group who had two credits or more of foreign language had a smaller difference between mean SAT verbal and math scores (37 points) than the difference (76 points) of honor course pattern students who had fewer than two or no foreign language courses.

Nationally, seventy-four percent (74%) of the SAT takers for 1983 had two or more credits of foreign language. Thirty-four percent (34%) of the sample SAT takers had two or more credits of foreign language.

TABLE 7

MEAN SAT SCORES BY COURSE PATTERN
AND STUDENT PARTICIPATION IN A FOREIGN LANGUAGE

Foreign Language Category	Course Pattern				
	Group I	Group II	Group III	Group IV	
	English(3-4) Algebra(0-1)	English(4) Algebra(2)	English(4) Alg(2)/Geom	Honors	Total
Mean SAT Verbal Scores					
2 credits or more	403	401	425	525	475
Less than 2 credits	323	373	419	490	391
Total	329	380	421	510	419
Mean SAT Math Scores					
2 credits or more	386	448	466	562	518
Less than 2 credits	332	396	474	566	426
Total	337	409	472	564	455
Percent of Students by Column and (Number)					
2 credits or more	10% (7)	26% (29)	28% (11)	57% (64)	34% (111)
Less than 2 credits	90% (60)	74% (83)	72% (28)	43% (48)	66% (219)
Total Students	(67)	(112)	(39)	(112)	(330)
Percent of Students by Row and (Number)					
2 credits or more	6% (7)	26% (29)	10% (11)	58% (64)	(111)
Less than 2 credits	27% (60)	38% (83)	13% (28)	22% (48)	(219)
Total Students	20% (67)	34% (112)	12% (39)	34% (112)	(330)

Fifty-eight percent (58%) of the sample SAT takers who had two or more foreign language credits were in the honor course pattern group.

5. Sample SAT takers who earned four of more academic credits during their senior year had higher mean SAT scores than those sample SAT takers earning less than four academic credits during their senior year. Again, the causal nature of this relationship is unclear.

To some degree, the information in Table 8 may reflect the influence that motivation has on achievement. Assume that motivation plays a large part in a student's choice to take more academic credits than is required. It would seem that the same motivation would inspire the student to be better prepared for the SAT by doing well in his/her course work.

Sixty-one percent (61%) of the sample SAT takers had four or more academic credits during the senior year. Fifty percent (50%) of the SAT takers with four or more academic credits during the senior year were in the honor course pattern group.

6. A comparison of the top ten percent of graduates from the classes of 1973 and 1983 indicates a small increase in the percent of students taking the SAT during 1983. Mean SAT-verbal scores among the top ten percent from 1973 to 1983 dropped nearly twice as much as district mean SAT-verbal scores. Mean SAT-math scores among the top ten percent from 1973 to 1983 dropped approximately the same amount as district mean SAT-math scores. Grade point averages for English and mathematics remained constant for the two comparison years.

From 1973 to 1983, the percent of CCISD graduates taking the SAT dropped from 25.4% to 23% (Table 9). Among the top ten percent of graduates for the same years, the percent taking the SAT increased from

TABLE 8

MEAN SAT SCORES BY COURSE PATTERN
AND SENIOR YEAR ACADEMIC COURSE STATUS

Senior Year Academic Course Category	Course Pattern				
	Group I	Group II	Group III	Group IV	
	English(3-4) Algebra(0-1)	English(4) Algebra(2)	English(4) Alg(2)/Geom	Honors	Total
Mean SAT Verbal Scores					
4 academic credits or more	376	380	409	513	449
Less than 4 academic credits	317	380	437	483	372
Total	329	380	421	510	419
Mean SAT Math Scores					
4 academic credits or more	383	426	456	568	496
Less than 4 academic credits	323	388	496	527	389
Total	337	409	472	564	455
Percent of Students by Column and (Number)					
4 academic credits or more	24% (16)	56% (63)	59% (23)	89% (100)	61% (202)
Less than 4 academic credits	76% (51)	44% (49)	41% (16)	11% (12)	39% (128)
Total Students	(67)	(112)	(39)	(112)	(330)
Percent of Students by Row and (Number)					
4 academic credits or more	8% (16)	31% (63)	11% (23)	50% (100)	(202)
Less than 4 academic credits	40% (51)	38% (49)	13% (16)	10% (12)	(128)
Total Students	20% (67)	34% (112)	12% (39)	34% (112)	(330)

TABLE 9

DISTRICT MEAN SAT SCORES FOR 1973 AND 1983

Year	Number of Graduates	Seniors Taking SAT		Mean SAT Scores	
		Number	Percent of Graduates	Verbal	Math
1973	2,723	691	25.4%	443	486
1983	2,076	477	23.0%	420	456

TABLE 10

MEAN SAT SCORES AND GRADE POINT AVERAGES
FOR THE TOP TEN PERCENT OF GRADUATES
FOR 1973 AND 1983

Year	Ten Percent of Graduates	Taking SAT		Mean GPA		Mean SAT Scores	
		Number	Percent of Top Ten	English	Math	Verbal	Math
1973	272	186	68%	3.6	3.4	523	574
1983	208	149	72%	3.6	3.4	482	543

68% to 72% (Table 10).

From 1973 to 1983, the mean SAT-verbal scores for the district dropped 23 points while the mean SAT-verbal scores among the top ten percent dropped 41 points. During the same two years, mean SAT-math scores for both groups dropped approximately 30 points.

Grade point averages for 1973 and 1983 among the top ten percent of graduates remained the same--3.6 for English and 3.4 for mathematics.

Generally, grade inflation is defined as a much higher percentage of students receiving As and Bs today than before. In a study of student transcripts conducted by Adelman (1983) for the National Commission on Excellence in Education, thousands of high school transcripts from the mid-1960s and from the last 1970s were analyzed. The study concluded that a point had been reached where nearly 60% of the high school grades are As and Bs, compared to less than half 15 years ago. However, the study reported that while grade inflation was significant, it has not been as pervasive as assumed and its locations and sources in the curriculum do not fit easy assumptions.

Data collected for the study of CCISD sample SAT takers did not include the number and type of letter grades per se, but rather grade point averages. If mean SAT scores are used as a bench mark for GPAs, grade inflation could be defined as a change in the bench mark (SAT scores) while a corresponding change in GPAs is not evident or vice versa.

Using such a definition for grade inflation, the information in

Table 10 shows a drop in mean SAT scores while GPAs remained constant. This would indicate the possibility of grade inflation in CCISD for at least those students among the top ten percent of graduates who took the SAT.

Finally, correlations of the various variables included in this study are presented in Table 11. The larger the correlation coefficient between two variables, the stronger the relationship. However, a correlation cpefficient can never indicate causality.

TABLE 11

CORRELATION COEFFICIENTS
OF SAT VERBAL AND MATHEMATICS SCORES
WITH OTHER VARIABLES

Variable	SAT - Verbal	Variable	SAT - Math
CAT - Reading	.88	CAT - Math	.84
English GPA	.69	CAT - Reading	.70
SAT - Math	.68	Math GPA	.69
CAT - Math	.67	Course Pattern	.69
Total GPA	.61	SAT - Verbal	.68
Course Pattern	.58	Total GPA	.67
Math GPA	.52	English GPA	.65
Foreign Language	.34	Full Academic	
Full Academic	.34	Senior Year	.42
Senior Year		Foreign Language	.33

Note: The correlation coefficient is a measure of the relationship between two variables. It ranges in value from +1.0 to -1.0 with a value at or near zero indicating no relationship. The larger the coefficient the stronger the relationship, however, a correlation coefficient can never indicate causality.

RECOMMENDATIONS

1. Beginning with junior high students, procedures need to be implemented to inform students of the purpose of college entrance exams and the level of academic expectation that is required to do well on such exams.

2. Procedures need to be implemented to insure that all college bound students enroll in the necessary college preparatory courses. Special attention needs to be given to the necessity for taking geometry.

3. The English curriculum needs to be reviewed to insure that reading comprehension and vocabulary skills addressed by college entrance exams are being taught.

4. Students and parents need to be made aware of the importance of doing well in course work.

5. The importance of out-of-school reading needs to be impressed on students, especially the college bound.

6. In order to insure that the prescribed course content in high school is being taught, standardized end-of-course testing needs to be implemented.

REFERENCES

Adelman, C. Devaluation, Diffusion and the College Connection: A Study of High School Transcripts, 1964-1981. Washington, D.C.: Dept. of Education, March 1983. (available through ERIC)

Beaton, A. et al. Changes in the Verbal Abilities of High School Seniors, College Entrants, and SAT Candidates Between 1960 and 1972. New York: College Entrance Examination Board, 1977.

Chall, J. et al. An Analysis of Textbooks in Relation to Declining SAT Scores. New York: College Entrance Examination Board, 1977.

Farr, R. and Olsharsky, J. "Is Minimum Competency Testing the Appropriate Solution to the SAT Decline?" Phi Delta Kappan, April 1980, 61(8), 528-30.

Ten SATs. New York: College Entrance Examination Board, 1983.

Wirtz, W. et al. On Further Examination. New York: College Entrance Examination Board, 1977.

APPENDIX A

SAMPLE OF SCHOLASTIC APTITUDE TEST AND SCORING PROCEDURES

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APPENDIX B

TRENDS IN SCHOLASTIC APTITUDE TEST SCORES
1972-73 TO 1982-83

CORPUS CHRISTI INDEPENDENT SCHOOL DISTRICT
Corpus Christi, Texas

TRENDS IN SCHOLASTIC APTITUDE TEST SCORES
1972-73 TO 1982-83

The attached information indicates the trends in the Scholastic Aptitude Test (SAT) for Corpus Christi Independent School District students taking the SAT from 1972-1973 to 1982-1983 (Figure 1). The College Entrance Examination Board (which sponsors the SAT) and Educational Testing Service (which develops and administers it) did not provide school district or school summaries until the 1972-1973 school year.

The national, Texas, and CCISD SAT score means for 1972-1973 to 1982-1983 are provided in Table 1. The number and percent of CCISD seniors taking the SAT for 1972-1973 to 1982-1983 are provided in Table 2. The distribution of SAT scores for three ranges is provided in Table 3 for national results and in Table 4 for CCISD results. A graph from the College Entrance Examination Board indicating SAT trends from 1952 to 1977 is also provided.

The SAT is a standardized college admissions test designed to measure a candidate's developed mental abilities and potential to perform first-year college work. The SAT is intended to supplement the candidate's academic record and accomplishments.

The SAT is designed to measure verbal and mathematical reasoning abilities on a standardized score scale ranging from 200 to 800. Since the SAT candidate group is self-selected, the mean score does not represent all high school seniors. Nationally, about one-third of all high school seniors take the SAT.

With the decline of SAT scores many educators have searched for possible causes. The study conducted by a "blue-ribbon" Advisory Panel supported by the College Entrance Examination Board is the best known. Their findings, entitled On Further Examination, were released in 1977.

The Advisory Panel concluded that there were actually two separate SAT score declines characterized by different causal factors. The first decline, between 1963 and 1970, was due primarily to changes in the SAT-taking population. The second decline in SAT scores, between 1970 and 1975, was related to events in the schools and society at large. Among the school and societal factors the panel cited as contributing to the decline in SAT scores were the following:

- many curriculum changes
- increase in student absenteeism

- grade inflation
- changes in textbooks
- television
- changes in the role of the family
- changing life styles
- disruption of national life
- decrease in students' learning motivation.

The panel concluded that there was no one cause for the SAT decline but rather a "virtually seamless web of causal connections."

Summary of findings for 1982-83 SAT scores:

- Nationally, the mean SAT-verbal score decreased one point to 425 while the mean SAT-mathematics score increased one point to 468.

- For CCISD, the mean SAT-verbal score increased one point to 420 while the mean SAT-mathematics score increased two points to 456.

- For CCISD, mean SAT scores are below the national mean scores and above Texas mean scores.

- For CCISD, 23% of the graduating seniors took the SAT.

- Both national and CCISD results indicate a decrease of high scoring students and an increase of low scoring students since 1972-73.

CORPUS CHRISTI INDEPENDENT SCHOOL DISTRICT
Corpus Christi, Texas

FIGURE 1

SCHOLASTIC APTITUDE TEST MEANS
NATIONAL, TEXAS, AND CCISD
1972-73 TO 1982-83

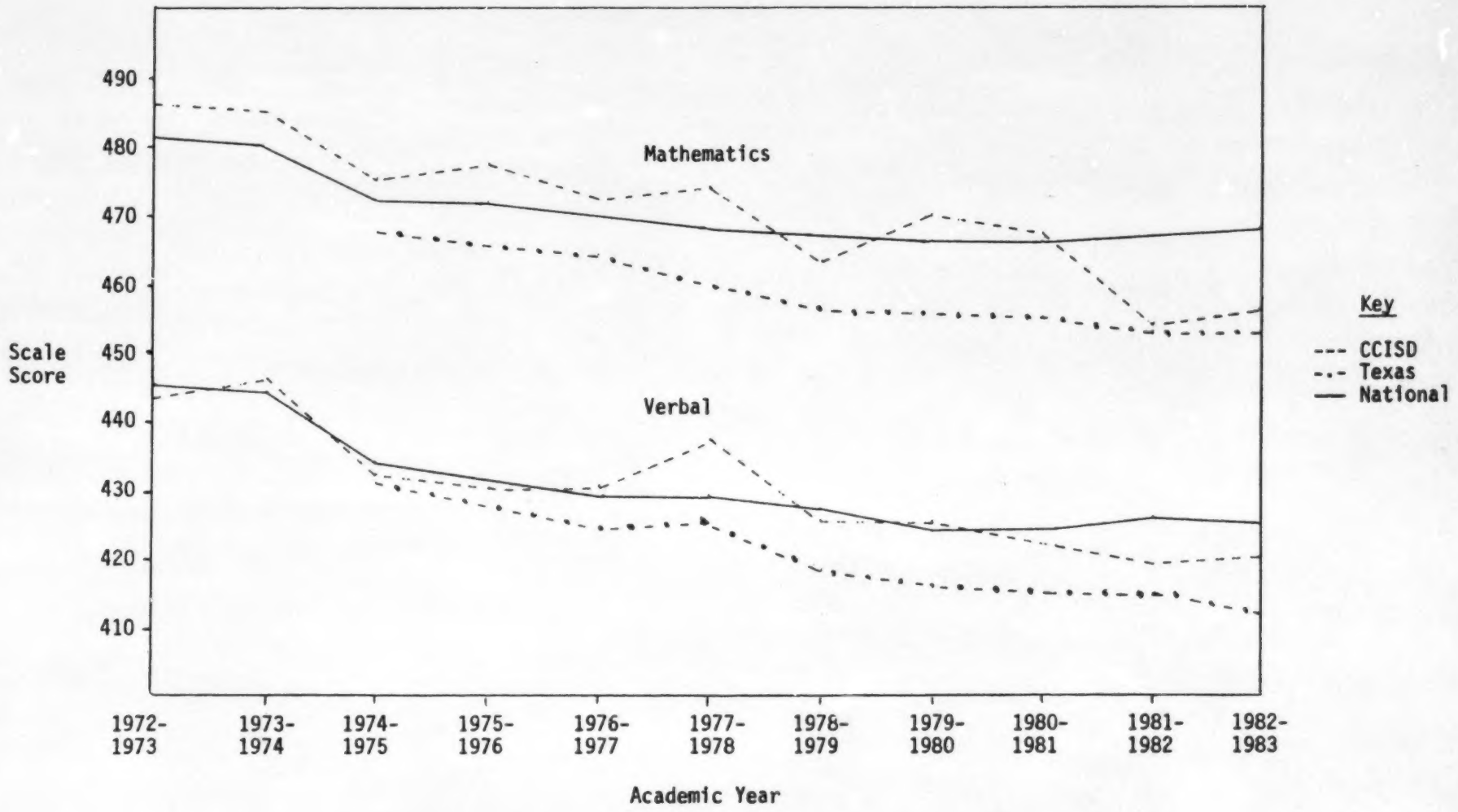

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TABLE 1

SCHOLASTIC APTITUDE TEST MEANS
NATIONAL, TEXAS AND CCISD
1972-73 TO 1982-83

Academic Year	Verbal			Mathematics		
	National	Texas	CCISD	National	Texas	CCISD
1972-73	445	—	443	481	—	486
1973-74	444	—	446	480	—	485
1974-75	434	431	432	472	467	475
1975-76	431	427	430	472	466	477
1976-77	429	424	430	470	464	472
1977-78	429	425	437	468	460	474
1978-79	427	418	425	467	456	463
1979-80	424	416	425	466	455	470
1980-81	424	415	422	466	455	467
1981-82	426	415	419	467	453	454
1982-83	425	412	420	468	453	456

TABLE 2

NUMBER AND PERCENT OF CCISD STUDENTS TAKING SAT

Academic Year	Number of Graduates	Seniors Taking SAT	
		Number	Percent of Graduates
1972-73	2,723	691	25.4
1973-74	2,603	664	25.5
1974-75	2,723	697	25.6
1975-76	2,676	674	25.2
1976-77	2,584	599	23.2
1977-78	2,426	557	23.0
1978-79	2,252	622	27.6
1979-80	2,432	525	21.6
1980-81	2,145	525	24.5
1981-82	2,271	501	22.1
1982-83	2,076	477	23.0

TABLE 3

DISTRIBUTION OF SCHOLASTIC APTITUDE TEST SCORES
NATIONAL
1972-73 THROUGH 1982-83

Academic Year	Mean Score	Percent of Students by Score Range			Number of Students
		600-800	400-599	200-399	
SAT (Verbal)					
1972-73	445	9.6	55.5	34.9	1,014,853
1973-74	444	10.0	54.6	35.3	985,239
1974-75	434	7.9	54.3	37.7	996,428
1975-76	431	8.2	52.1	39.7	999,809
1976-77	429	8.0	52.9	39.1	979,396
1977-78	429	7.9	52.4	39.7	989,185
1978-79	427	7.7	51.6	40.7	991,617
1979-80	424	7.2	51.0	41.8	991,245
1980-81	424	7.0	51.4	41.6	994,046
1981-82	426	7.1	52.7	40.2	988,270
1982-83	425	6.9	52.0	41.1	962,877
SAT (Mathematics)					
1972-73	481	16.6	59.0	24.3	1,014,853
1973-74	480	17.3	57.3	25.5	985,239
1974-75	472	15.6	55.9	28.5	996,428
1975-76	472	16.4	54.6	29.2	999,809
1976-77	470	16.1	54.2	29.7	979,396
1977-78	468	15.8	54.4	29.8	989,185
1978-79	467	15.0	55.1	29.9	991,617
1979-80	466	15.1	54.7	30.2	991,245
1980-81	466	14.5	56.0	29.5	994,046
1981-82	467	15.3	55.2	29.5	988,270
1982-83	468	15.9	54.0	30.1	962,877
SAT (Normal Distribution)					
	500	16	68	16	

TABLE 4

DISTRIBUTION OF SCHOLASTIC APTITUDE TEST SCORES
CCISD
1972-73 THROUGH 1982-83

Academic Year	Mean Score	Percent of Students by Score Range			Number of Students
		600-800	400-599	200-399	
SAT (Verbal)					
1972-73	443	8.7	56.4	34.9	691
1973-74	446	11.3	54.2	34.5	664
1974-75	432	7.6	52.7	39.7	697
1975-76	430	7.6	53.3	39.1	674
1976-77	430	8.2	54.3	37.5	599
1977-78	437	8.1	56.6	35.3	557
1978-79	425	7.9	50.5	41.6	622
1979-80	425	4.6	54.9	40.5	525
1980-81	422	4.2	54.7	41.1	525
1981-82	419	5.8	50.7	43.5	501
1982-83	420	5.5	52.0	42.5	477
SAT (Mathematics)					
1972-73	486	16.4	62.2	21.4	691
1973-74	485	18.4	57.7	23.9	664
1974-75	475	16.4	56.8	26.8	697
1975-76	477	15.3	58.6	26.1	674
1976-77	472	13.9	56.6	29.5	599
1977-78	474	13.6	62.8	23.6	557
1978-79	463	13.5	55.1	31.4	622
1979-80	470	13.3	58.3	28.4	525
1980-81	467	12.4	60.2	27.4	525
1981-82	454	10.4	59.5	30.1	501
1982-83	456	12.2	59.5	28.3	477
SAT (Normal Distribution)					
	500	16	68	16	

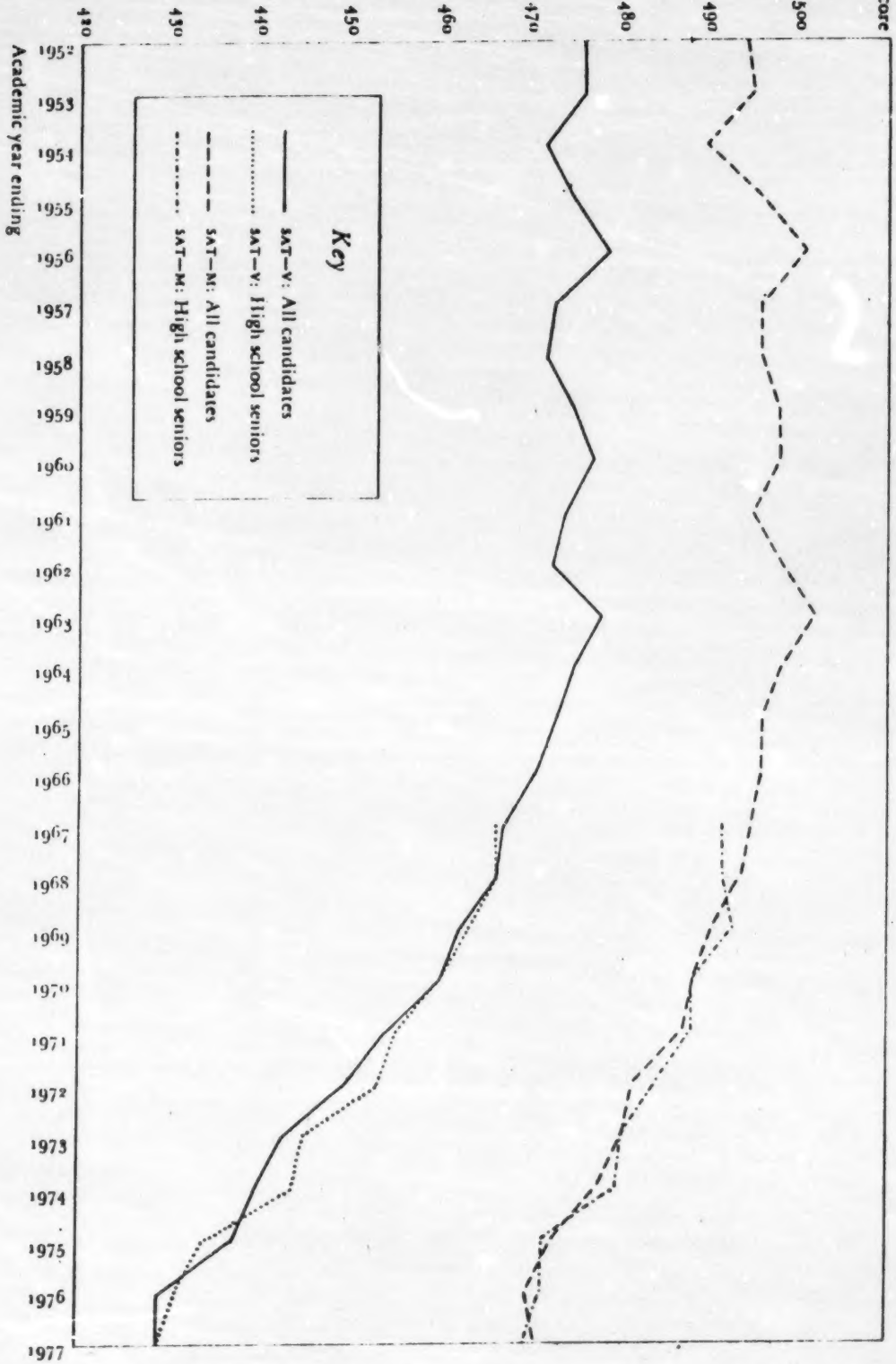

Chart A. Scholastic Aptitude Test Scaled Score Means, 1952 to 1977

Source: College Entrance Examination Board, 1977.